

Claims

1. A package for a high frequency electrical circuit comprising a cavity formed within a material for containment of the electrical circuit, characterised in that the package additionally comprises of a material having at least one surface extending into the cavity, the or each surface having thereupon a conductive material, the conductivity thereof being adapted to be at least partially absorbent to electromagnetic radiation.
- 5 2. A package as claimed in claim 1 wherein the or each conductive surface comprises a layered structure with a first layer comprising a substrate and a second layer comprising a conductive material.
- 10 3. A package as claimed in claim 2 wherein the substrate comprises a material chosen from alumina, quartz, plastic, glass and cardboard.
- 15 4. A package as claimed in claim 2 or claim 3 wherein the substrate comprises a dielectric occupying a substantial region of the cavity.
- 20 5. A package as claimed in any of claims 1 to 3 wherein the material having the at least one conductive surface takes the form of a vane.
- 25 6. A package as claimed in any of the above claims wherein at least one region of the conductive material is arranged to have a specific resistance substantially similar to that of a predicted electromagnetic field that will be present when the cavity is in use.
- 30 7. A package as claimed in any of the above claims wherein the conductive surface has conductivity properties different to that of other parts of the cavity.
8. A package as claimed in any of the above claims wherein the package is designed to house circuitry operative in at least one of the millimetre wave and sub-millimetre wave region.

9. A package as claimed in any of claims 1 to 8 wherein the or each conductive surface is mounted on a removable portion of the package.
- 5 10. A package as claimed in any of claims 1 to 9 wherein the or each conductive surface is mounted such that it is substantially normal to the surface on which the vane is mounted.
- 10 11. A package as claimed in any of claims 1 to 10 wherein the or each conductive surface is mounted in a substantially symmetric fashion within the cavity in relation to a pair of opposing walls of the package.
12. A package as claimed in any of the above claims wherein the or each conductive surface is substantially planar.
- 15 13. A package as claimed in any of the above claims wherein the conductive material comprises nichrome.
- 20 14. A package as claimed in any of claims 1 to 12 wherein the conductive material comprises carbon.
15. A vane for suppressing cavity mode radiation and suitable for mounting within a package for a high frequency electrical circuit, the vane comprising at least in part a layer of conductive material, the conductivity thereof being adapted to be at least partially absorbent to electromagnetic radiation.
- 25 16. A vane as claimed in claim 15 wherein the vane comprises a substrate upon which is arranged a conductive layer.
- 30 17. A vane as claimed in claim 15 or claim 16 wherein the vane is mounted to an inner surface of the package by means of being affixed substantially along, an edge of the vane.

18. A high frequency electrical circuit mounted within a cavity in a package, wherein the cavity has an inner surface on which is positioned a material having a conductive surface extending into the cavity, the conductivity thereof being adapted to be at least partially absorbent to electromagnetic radiation.

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19. A method of manufacturing a package for a high frequency electrical circuit, comprising positioning a conductive surface on an inner surface of the package, the conductive surface extending into the package, and the conductivity thereof being adapted to be at least partially absorbent to electromagnetic radiation.

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20. A method as claimed in claim 19 wherein the conductivity of the conductive surface is chosen by one of: simulation of expected electrical properties of circuitry within the package, and a trial and error approach.